

#### EXAMINER'S COMMENT

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/08/2010 has been entered.

#### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Thomas Lane, Registration No. 42,781 on 07/21/2011.

4. The claims had been amended as the following:

Claim 1. (Currently Amended) A computer-implemented method comprising:  
receiving an instruction executed by a Virtual Machine Monitor (VMM), wherein the instruction is one of a first type to indicate a first type of request or a second type to indicate a second type of request, wherein the first type is for an initial transition to a Virtual Machine

(VM). VMM and the second type is for a subsequent transition to the VM, wherein identifying the initial transition comprises determining the initial transition is about to occur by logic within a processor, wherein the logic within the processor is prediction logic;

identifying, based on whether the instruction is of the first type or the second type, that an initial transition from the VMM to the VM is about to occur; and

utilizing processor-managed resources associated with the VM based on the initial transition.

Claims 2-4. (Canceled)

Claim 5. (Previously Presented) The method of claim 1 wherein the instruction executed by the VMM is a VM launch instruction.

Claims 6-7. (Canceled)

Claim 8. (Original) The method of claim 1 wherein utilization of processor-managed resources includes at least one of allocation of one or more processor-managed resources, de-allocation of one or more processor-managed resources, verification of data stored in one or more processor-managed resources, invalidation of data stored in one or more processor-managed resources, and loading of data into one or more processor-managed resources.

Claims 9-29. (Canceled)

Claim 30. (Currently Amended) An apparatus comprising a hardware platform with a processor and a memory that operate in tandem to implement:

a processor notification module in a virtual machine monitor (VMM) to notify the processor of transition from the VMM to a virtual machine (VM) using an instruction, wherein the instruction is one of a first type to indicate a first type of transition or a second type to indicate a second type of transition, wherein the first type is for an initial transition to the VM and the second type is for a subsequent transition to the VM;

a resource use determinator to identify, based on the notification, that the transition is an initial rather than a subsequent transition from the VMM to the VM; ~~and~~

a resource optimizer to utilize processor-managed resources including processor registers, processor cache, memory, and input/output (I/O) devices associated with the VM based on the initial transition[.]; and

a virtual machine monitor (VMM) behavior predictor in a processor to predict the initial transition, wherein identify the initial transition comprises determine the initial transition is about to occur by prediction logic within the VMM behavior predictor.

Claims 31-33. (Canceled)

Claim 34. (Original) The apparatus of claim 30 wherein the resource optimizer is to utilize the processor-managed resources by performing at least one of allocation of one or more processor-managed resource, de-allocation of one or more processor-managed resources, verification of data stored in one or more processor-managed resources, invalidation of data

stored in one or more processor-managed resources, and loading of data into one or more processor-managed resources.

Claims 35-49. (Canceled)

Claim 50. (Currently Amended) A system comprising:

a memory; ~~and~~

a processor coupled to the memory; and

processor-managed resources coupled to the processor that are associated with one or more virtual machines (VMs), wherein the processor is to:

receive an instruction executed by a Virtual Machine Monitor (VMM), wherein the instruction is one of a first type to indicate a first type of request or a second type to indicate a second type of request, wherein the first type is for an initial transition to a virtual machine (VM) and the second type is for a subsequent transition to the VM;

identify, based on whether the instruction is of the first type or the second type, that an initial from the VMM to the one or more VMs is about to occur, wherein identify the initial transition comprises determine the initial transition is about to occur by logic within a processor, wherein the logic within the processor is prediction logic, and utilize the processor-managed resources based on the type of transition.

Claims 51-58. (Canceled)

5. The following is an examiner's statement of reasons for allowance:

The prior arts of record when taken individually or in combination do not expressly teach or render obvious the limitations recited in claims 1, 30 and 50, **when taken in the context of the claims as a whole**, specific to the method and system including the concept of receiving an instruction executed by a Virtual Machine Monitor (VMM), wherein the instruction is one of a first type to indicate a first type of request or a second type to indicate a second type of request, wherein the first type is for an initial transition to a Virtual Machine (VM) VM and the second type is for a subsequent transition to the VM, wherein identifying the initial transition comprises determining the initial transition is about to occur by logic within a processor, wherein the logic within the processor is prediction logic, identifying, based on whether the instruction is of the first type or the second type, that an initial transition from the VMM to the VM is about to occur, and utilizing processor-managed resources associated with the VM based on the initial transition.

At best the prior arts of record, specifically Robinson et al (U.S. Patent No. 5,522,075) disclose a method and system that capable of receiving one of a plurality of types of virtual machine entry instructions executed by a virtual machine monitor (VMM), identifying based on whether the instruction is a VM launch or a VM resume instruction, that a transition from the VMM to one or more virtual machines (VMs) is about to occur, utilizing processor-managed resources associated with the one or more VMs based the transition (see col. 5, line 21; col. 10, line 15 through col. 11, line 60; col. 12, lines 24-25; 34-60).

Thus, claims 1, 30 and 50 are allowed over the prior arts of record.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer N. To whose telephone number is (571) 272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jennifer N To/  
Primary Examiner, AU 2195